

NEW SPECIES OF ORIENTAL ENDOMYCHIDAE, WITH
REMARKS ON SOME PREVIOUSLY KNOWN SPECIES

(Coleoptera: Endomychidae)

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Through the kindness of E. C. Van Dyke and H. B. Leech I have recently been able to study many specimens of Endomychidae in the collection of the California Academy of Sciences. Most of these are from the Orient; of unusual interest are examples collected in Formosa, Hainan and southern China, many of them from the J. L. Gressitt collection.

MYCETINA MARGINALIS (Gebler)

Lycoperdina marginalis Gebler, 1830, Cat. Coleopt. Siberiae Occid. Th. 2.

Mycetina obliquesignata Gorham, 1873, Endomycici Recitati, p. 44.

Engonius konumaensis Ohta, 1931, Jour. Faculty Agric. Sapporo, 30, p. 220.

Phaeomychus konumaensis Chujo, 1938, Trans. Nat. Hist. Soc. Formosa, 28, p. 394.

Ohta (1931:220) did not properly recognize the genus *Engonius*; the three species referred to it by him belong to other genera. As Chujo has pointed out (1938:398), *Engonius taitoensis* and *E. baibaranus* of Ohta are the two sexes of *Eumorphus quadriguttatus formosanus* Pic, which occurs also on Hainan. *E. konumaensis* Ohta was referred to *Phaeomychus* by Chujo (1938:394), a justified move. But the generic name *Phaeomychus* Gorham is not available here since its type, *Endomychus rufipennis* Motschulsky, is a species of *Mycetina*. In 1830 Gebler described *Lycoperdina marginalis* from Siberia and the species has not been recognized since. In my collection there are four specimens labeled "Sutschan, Ussuri", and I have seen one other from Transbaikal. It seems certain that the above synonymy is applicable.

ENGONIUS MUSHANUS (Ohta)

In the California Academy collection is a specimen taken at Wong Sa Shui, S. Kiangsi, S. China, by J. L. Gressitt, which agrees exactly with Ohta's description and figure of *Brachytrycherus*

mushanus. The specimen is, however, an *Engonius*. On the basis of Ohta's diagnosis I had already placed *mushanus* under *Engonius* in

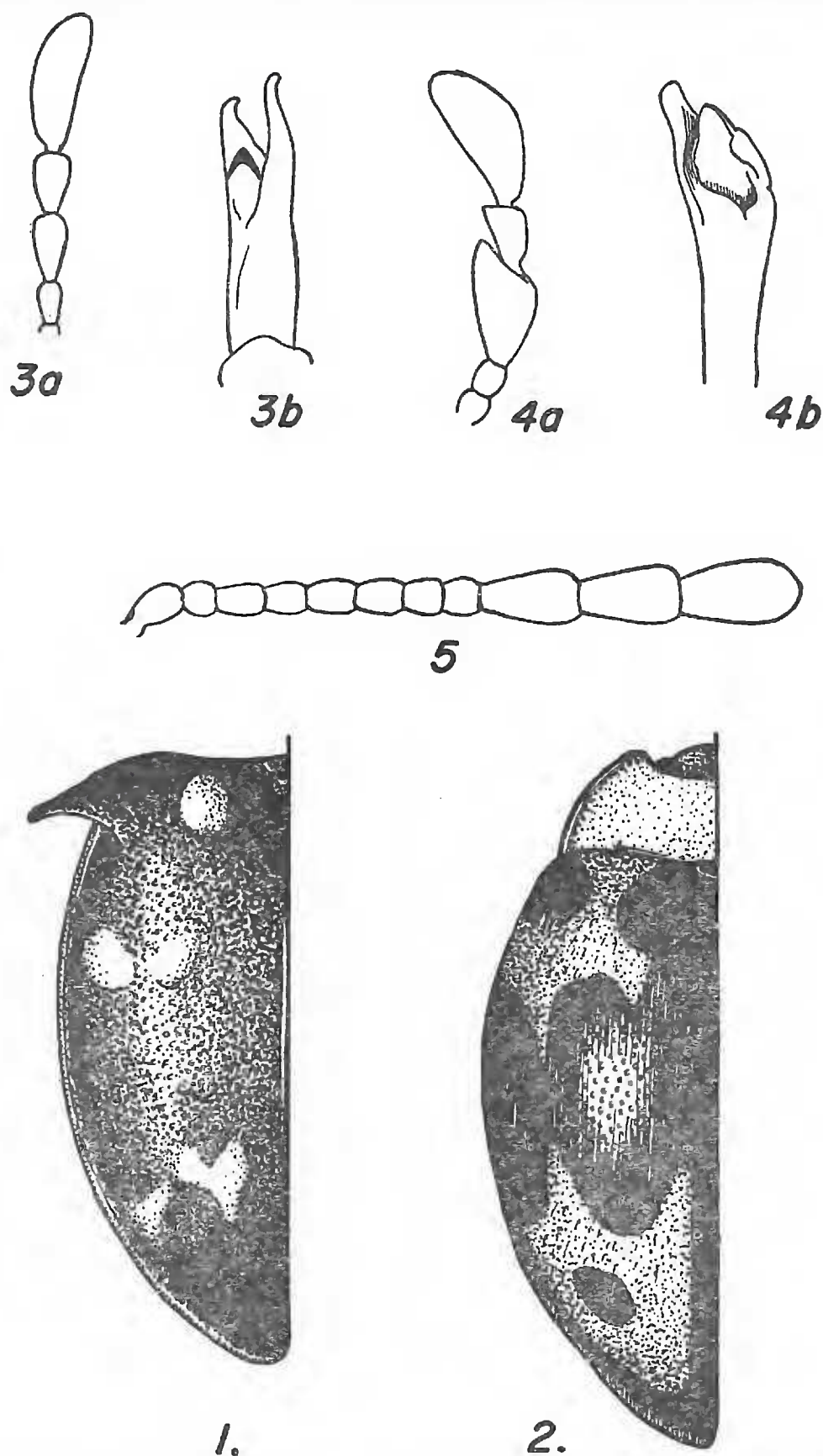


Fig. 1. *Amphisternus astarte*, elytron. Fig. 2. *Meilichius erotylodes*. Fig. 3a. *Saula longior*, club of antenna. Fig. 3b. *S. longior*, aedeagus. Fig. 4a. *Danae chinensis*, club of antenna. Fig. 4b. *D. chinensis*, aedeagus. Fig. 5. *Meilichius pachycerus*, antenna.

my private catalogue and this seems vindicated. The subgeneric name *Ohtaius* Chujo falls as a synonym of *Engonius*.

PARINDALMUS TONKINEUS Achard

Three other specimens of unusual interest to me were collected at Tai Au Hong, S. Kiangsi, S. China, by Gressitt. They agree perfectly with Achard's description (1922:29) of *Parindalmus tonkineus*. Arrow (1928:351) expressed the opinion that Achard's *Parindalmus* was the same as *Pedanus* Gerstaecker, and the three specimens now at hand corroborate his judgment. However, since Schoenherr used the generic name *Pedanus* in the Curculionidae in 1823 it appears that *Parindalmus* Achard must be used for the species formerly referred to *Pedanus* Gerstaecker.

Amphisternus astarte Strohecker, new species

Black, the elytra with subcupreous reflections and each with a broad, recurved humeral spine and five reddish-yellow callosities. Of these the most anterior is rounded and near the scutellum; the next two are subtriangular in outline and are situated in a transverse line before the middle; the remaining two callosities occupy a transverse line on the last third of the elytron. Length 10 mm.

Head coarsely and thickly punctured, with an impression near each antennal base. Antennae slender, third segment almost as long as fourth and fifth combined; club moderately broad, compact, strongly flattened. Pronotum transverse, its front angles much thickened, extended beyond the eyes and acutely rounded; hind angles slightly acute, hardly produced. Disc of pronotum finely, sparsely punctured, with a feeble median longitudinal groove and two shallow impressions on each side. Basal foveae short and deep, basal transverse sulcus deep. Elytra as described above, rather coarsely and closely punctured at base, more finely toward apex. Prosternum broad, its intercoxal process deeply forked. Mesosternum strongly transverse. Abdominal sternites coarsely and thickly punctured except the smooth posterior edge of each. Femora clavate, tibiae simple.

Holotype: Female, BUKAI, FORMOSA, VI-14-32, L. Gressitt (Calif. Acad. Sciences).

The holotype is the only specimen I have seen. This is a very distinctive species, distinguishable from all others described by its recurved humeral spines with absence of other elytral spines or verruculae.

Ancylopus concolor Strohecker, new species

Head, legs and antennae black, pronotum, elytra and undersurface reddish-brown, the sides of metasternum and abdomen infuscate. Length 6.5 mm.

The head is coarsely and closely punctured, eyes prominent and coarsely granulate. Antennae with third segment almost twice length of fourth; club loose-jointed, narrow, not much flattened. Pronotum transverse, broadest at mid-length, slightly narrowed to the produced and acutely rounded front angles and to the hind angles, which are approximately right-angled. Lateral sulci linear, not reaching to middle of disc; basal transverse sulcus deep, extended laterally to hind angles. Disc sparsely punctate, with several large, punctiform foveae on each side of middle. Elytra coarsely and rather closely punctured. Prosternum short and very narrow, the front coxae contiguous. Mesosternum narrow, middle coxae approximate. Fifth abdominal sternite broadly rounded at apex and minutely v-excised at middle of hind margin. Front tibia incurved and enlarged at apex, with row of minute tubercles on inner face. Middle tibia incurved and enlarged near apex. Hind tibia straight, somewhat enlarged at tip and with a dense brush of setae at its inner apical angle.

The structure of the tibiae and fifth abdominal sternite suggest that the specimen is a male. Dissection failed, however, to yield an aedeagus. Possibly this organ was extruded, and was broken off after drying.

Holotype: Sex? TAI AU HONG, S. KIANGSI, S. CHINA, VII-7-36, J. L. Gressitt (Calif. Acad. Sciences).

Apparently the only names hitherto correctly referable to *Ancylopus* are *melanocephalus* Olivier and its synonyms and color varieties. The other species placed by their describers in *Ancylopus* are better relegated to *Indalmus* on the basis of mesosternal structure. In *Ancylopus* the mesosternum is strongly narrowed between the middle coxae, while in *Indalmus* it is about parallel. *Ancylopus melanocephalus* has the elytra extensively marked with black; in the male the front tibia is strongly toothed; in the female the pronotum has an arcuate, transverse groove at mid-length.

Mycetina minor Strohecker, new species

A small species of the *brevicollis* group but recognizable by its somewhat elongate, subparallel form. Entirely castaneous except the antennae and eyes, strongly shining. Antennae stout, segment 2 very small and globose, 3 a little longer than broad, 4 and 5 about quadrate, the remainder transverse. The antenna has no distinct club but is gradually broadened from the third segment outward. Segments 1 and 11 clear ferruginous, 2 to 5 dusky, 6 to 10 black. Length 3.2 mm.

Pronotum brilliant, its disc not perceptibly punctured. Basal foveae narrowly triangular, prolonged to middle of disc. Basal

transverse sulcus broadly excavated, leaving a basal marginal area of considerable width. Elytra at base subequal in width to pronotum, their umbones moderately prominent and concolorous with the disc. From their base the elytra are slightly widened to about their mid-length, thence gradually narrowed and evenly rounded at tip. Disc of elytra finely, sparsely punctured, the punctures thicker near the suture. Represented only by the holotype.

Holotype: Sex? TONDANO, N. CELEBES, IV-1-32, van Braekel (Calif. Acad. Sciences).

The most closely related species are *M. brevicollis* Gorham and *M. globosa* Arrow of Borneo. Both these species have the elytra short and subglobose, with the umbones very prominent and of yellow color.

Encymon valgus Strohecker, new species

Head and pronotum dark red, almost black, shining. Elytra long-oval, deep indigo in color, moderately convex (for the genus), a little flattened above and with moderately broad side margins. Length 7 mm.

Since the species of *Encymon* are so similar in their general structure it seems futile to do more than note the features, particularly those of the male, characteristic of the present species. In its overall appearance this insect resembles *E. immaculatus* (Montruzier) but the front angles of the pronotum are less produced and the elytra less convex and more broadly margined than in *immaculatus*. In the holotype male of *valgus* the front tibia is simple, the middle tibia strongly incurved near its apex and with a row of small tubercles on its inner face, the hind tibia undulate. *Encymon violaceus* Gerstaecker shows similar tibial modifications but is easily identified by its finely muricate, opaque pronotum and highly convex elytra.

Holotype: Male. BALBALAN, LUZON, PHILIPPINE ISLANDS (author's collection).

Allotype: Female. Data as for type and wholly similar in appearance except the tibiae are all simple. Three additional females appear to belong to this species and are designated paratypes. One is labeled "Montalban, Luzon", another "Subuagrn, Luzon" and the third "Philippinen, Luzon".

Encymon truncaticollis Strohecker, new species

Head and pronotum red, elytra deep violet, oval and moderately convex, a little flattened above and with the sutural border depressed. Pronotum with front angles very short and obtusely rounded. Length 7 mm.

Head between the eyes with two rounded impressions. Pronotum distinctive, its front angles much rounded and not produced, its anterior margin strongly sinuate. Hind angles right. Disc of pronotum abruptly convex toward middle and with a fovea on each side in front of middle; lateral sulci long, linear; basal transverse sulcus deep. Elytra as described, their side margins moderately broad. Front tibia simple, middle tibia a little incurved toward tip, hind tibia weakly undulate.

Holotype: Male. MT. MAKILING, LAGUNA, PHILIPPINE ISLANDS, XI-1-32, F. C. Hadden (Calif. Acad. Sciences).

A single female specimen collected by Hadden on Mt. Makiling (VI-29-31) may be of this species but the pronotum has the front angles decidedly acute although little produced, and the hind angles are acute. The disc of the pronotum is evenly and slightly convex as is usual in the genus. The elytra conform closely to the description given for the holotype. An imperfect male specimen in my collection from Balbalan, Luzon, Philippine Islands, is designated a paratype.

ENCYMON VIOLACEUS CUPREATUS Mader

In my collection are four specimens from the type locality, Banguay Island. These specimens came from the Staudinger collection and are undoubtedly part of the original material from which came the type series of Mader. I feel confident in saying that *cupreatus* Mader is merely the teneral phase of *violaceus* Gerst.

Danae chinensis Strohecker, new species

Very similar to *Danae denticornis* (Gorham) but notably larger. Head, antennae, pronotum, legs and under surface of prothorax black; elytra and abdominal sternites ferruginous. Entirely clothed with a fine, fairly dense, recumbent pubescence. Length 4.25 mm.

Head deeply sunken in the prothorax, the eyes partly hidden. Antennae with segment 9 much thicker and broader than 10 or 11 and internally acute at apex; segment 10 small, its outline almost a right triangle; 11 somewhat reniform, twice as long as broad. Pronotum broadest before middle, abruptly rounded to the very obtuse front angles, narrowing posteriorly but expanding slightly to the feebly acute hind angles. Basal foveae short, deep and oblique; basal transverse sulcus fine and shallow. Elytra long-oval and subparallel. The tibiae are all straight and otherwise unmodified.

Holotype: Male. HONG SAN, S. E. KIANGSI, CHINA, L. Gressitt (Calif. Acad. Sciences). Another male with the same data as that of the holotype is designated a paratype and is in the author's collection.

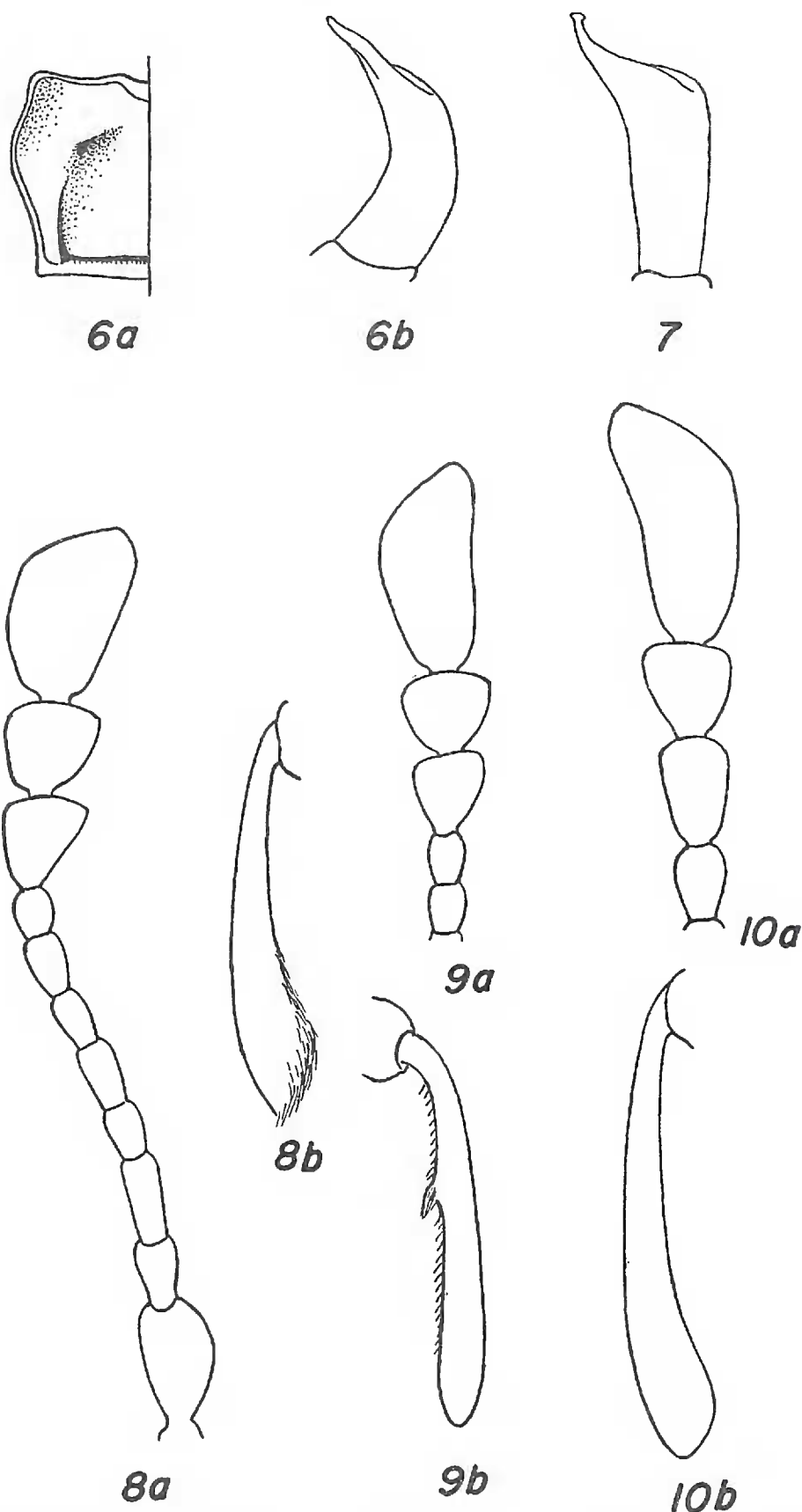


Fig. 6a. *Encymon truncaticollis*, pronotum. Fig. 6b. *E. truncaticollis*, aedeagus. Fig. 7. *Encymon valgus*, aedeagus. Fig. 8a. *Saula luzonica*, antenna. Fig. 8b. *S. luzonica*, front tibia of male. Fig. 9a. *Saula dentipes*, club of antenna. Fig. 9b. *S. dentipes*, front tibia of male. Fig. 10a. *Saula longiclava*, club of antenna. Fig. 10b. *S. longiclava*, front tibia of male.

The male of this species may be distinguished from the same sex of *denticornis* by the absence of an internal tooth on the ninth antennal segment. Identification of females may be more difficult. I have associated no females with the males described. The Academy collection contains two males of *denticornis* from Hainan and four females from Kwantung and Fukien Provinces, which I have also referred to *denticornis*.

Saula longior Strohecker, new species

Among the known species of *Saula* the present one is unusual in its elongate form and long antennae, in which features it resembles *S. filicornis* Arrow of the Philippines. Even the aedeagi of the two species do not offer differences of major order. The legs in *longior* are of the same tawny color as the rest of the insect while in *filicornis* the legs are usually mostly black. I have, however, specimens of *filicornis* from Mindoro and Masbate which have the legs entirely tawny. Perhaps the best feature separating the two species is the shape of the last antennal segment. In *filicornis* it is somewhat less than twice as long as broad and subtruncate at apex, thus presenting a narrowly triangular outline. In *longior* it is twice or more as long as broad and the apex is rounded. Other male features in which the two species resemble each other are the slightly curved front tibia and the roundly excised fifth and sixth abdominal sternites. The sixth sternite is greatly reflexed on each side, embracing the pygidium, which is vertical. While the males of some other species of *Saula* have the pygidium so exposed none of those described show the great degree of reflexion of the sixth seen in *longior* and *filicornis*. Length 4 mm.

Holotype: Male. MOTHRONWALA, DEHRA DUN, U. P. [INDIA], IX-16-32, B.D. Saklani (Calif. Acad. Sciences).

Saula dentipes Strohecker, new species

Small, with the pronotum and elytra more convex than is usual in the genus. Ferruginous except the eyes, distal seven or eight antennal segments, tibiae and extremities of femora, which are black. Clothed with a sparse, tawny, semi-erect pubescence. Length 3 mm.

Antennae stout but fairly long; segment 2 a little longer than broad; 3 slender; 2 to 7 subequal in length but increasing in breadth from 4 outward; 8 a little shorter than 7 and subglobose; 9 and 10 very similar in size and shape, each about as broad as long; 11 widely blade-shaped, equal in length to 9 and 10 combined. Pronotum a little more than half again as broad as long, front angles short and obtuse, hind angles right. Sides of pronotum parallel behind, widest

in front of middle. Elytra notably broader at base than pronotum, a little widened to about mid-length, thence tapering and somewhat attenuate behind; umbones not prominent.

Front trochanters subtriangularly elevated; front tibia with a small tubercle on its inner face before mid-length. The tubercle bears a dense tuft of hairs, appearing as an acute tooth. The type is unique.

Holotype: Male. CABUGAO, N. LUZON, PHILLIPINE ISLANDS (author's coll.).

Saula luzonica Strohecker, new species

Very similar to the preceding species in form and coloration but distinguishable on the basis of antennal structure and tibial characters of the male.

Antennae with segment 1 massive, a little longer than broad; 2 much thinner than 1, a little longer than broad; 3 equal in breadth to 2 but longer; 4 and 6 subequal to segment 2 in breadth and length; 5 and 7 each equal in length to 6 but distinctly broader; 8 subglobose; 9 as broad as long; 10 approximately equal to 9; 11 ovoid, broader than 10 and about as long as 9 and 10 together. Front tibia incurved and enlarged at apex; front trochanters normal; middle tibia feebly curved; hind tibia straight.

Holotype: Male. MANILA, PHILIPPINES (author's coll.). *Allotype*: Female. Manila, Luzon, P. I. (author's coll.). Differs from the holotype only in the tibiae, which are all straight and otherwise unmodified.

The following specimens are designated *paratypes*: Four males and two females from Manila; one male and one female from Cabugao, Luzon; one male and one female from Los Banos, Luzon; one female from Montalban, Luzon; one female from Mt. Makiling. A male from Polillo and a female from Mt. Banahao, Luzon, are very similar but seem to present some small structural differences.

Saula longiclava Strohecker, new species

A small insect generally similar in appearance to the two preceding but more highly convex and with the umbones of elytra more prominent. Dark red-brown, shining, clothed with a sparse pubescence. Tibiae black. Length 3.5 mm.

The stalk segments of the antennae resemble those of the two preceding species but the club presents adequate differences for identification. The first club segment is considerably longer than broad; the second is about equal in length to the first but broader; the last is elongate-oval, longer than the first two combined. The front tibia is flattened on its inner face at middle, beyond this point gradually incurved.

Holotype: Male. DAPA, SURIGAO, PHILIPPINE ISLANDS. (author's coll.). *Allotype*: Female; data as for type.

The above description applies to the allotype except that its front tibia is straight. I have seen no other material.

Meilichius pachycerus Strohecker, new species

Short-oval in outline, highly convex; ferruginous with metallic sheen, lateral areas of pronotum and elytral umbones yellowish, meso- and metasterna infusate. Antennae stout, segments 1 to 5 ferruginous, 6 infusate at apex, 7 to 10 black, 11 black with its apical half yellow. Length 3.8 mm.

Antennae stout, about half as long as the body, gradually increasing in thickness from base to apex; segments 3 to 6 a little longer than broad; 7 and 8 quadrate; 9 to 11 each considerably longer than broad, their combined length equal to that of the preceding seven together. Pronotum with its front angles produced and acute, its sides lightly curved and gradually divergent to the approximately right hind angles, its posterior margin feebly tri-sinuate. Basal foveae minute, shallow, triangular; transverse sulcus represented by a fine groove on each side of base. Disc of pronotum finely and sparsely punctured. Elytra normally convex for the genus, its umbones rather prominent, its disc coarsely and sparsely punctured.

Holotype: Sex? Mjöberg Coll., no locality label but very probably Borneo (Calif. Acad. Sciences).

Three other specimens with identical data are designated paratypes. A damaged specimen labeled Kalabit Co., Borneo (Mjöberg Collection, Calif. Acad. Sciences) has also been studied.

Most closely related to the Bornean species *M. brevicollis* and *apicornis* Arrow, but differs notably in the stout structure of the antennae.

Meilichius erotyloides Strohecker, new species

A bizarre form which looks at first glance like an erotylid but its structure is definitely endomychid. It might be referred to *Bolbomorphus* but the mesosternum is almost linearly transverse as in *Meilichius*.

Head and antennae black, the latter short and stout with segment 3 a little longer than broad, 2 and 4 to 6 quadrate, 7 and 8 transverse; club abruptly formed, its first segment about as long as broad, its second transverse, and the last very little longer than broad with its apex oblique. Pronotum deep red, its surface almost flat, irregularly punctured and with a small smooth spot on each side at base; front angles short and acute; front margin arcuately excised for reception of the head; hind angles slightly acute; basal

foveae minute. Elytra long oval, somewhat produced and sub-acuminate at apex, sparsely punctured; black, each with two large yellow marks, anterior of these encloses the humerus, leaving a circular area on the umbone black; inner margin tri-dentate. The posterior yellow marking is pre-apical and it conforms in shape to the elytron, tapering apically. In its center is a rounded black spot and it emits two rays from its anterior margin. The prosternum is very broad, deeply but not thickly punctured. Mesosternum very short, almost linearly transverse. Metasternum coarsely and sparsely punctured. Legs short and stout. Length 4.5 mm.

Holotype: Sex? TA HAN, HAINAN, VI-24-35, L. Gressitt (Calif. Acad. Sciences).

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NESTING HABITS OF STENIOLIA NIGRIPES PARKER

(Hymenoptera: Sphecidae)

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In the late forenoon of April 25, 1949, the author found a colony of the bembicine wasp, *Steniolia nigripes* Parker, nesting in a small rocky valley at Yaqui Well, Borego Desert, San Diego County,